Wrap or Not? News Delivery Dilemma

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Protecting lawn-delivered newspaper against rain poses a simple problem in weather economics. Wrapping the newspapers in plastic bags costs about a penny per paper, but still about $10,000 for the half-million or more home-delivered copies of the *Los Angeles Times*. But the monetary damage from unexpected rain on unwrapped newspapers can be estimated only crudely. In all, the news delivery dilemma, whether or not to wrap papers for delivery, dramatizes one practical aspect of the economics of weather information.

Newspaper delivery practices vary markedly over the United States. No agency or organization seems to have any comprehensive information on them: neither the International Circulation Managers Association in Reston, VA nor the Western Conference of Circulation Managers in Kirkland, WA could furnish anything specific on where and how often newspapers are wrapped. Berkley-Small, Inc., of Mobile, AL has sold as many as 180 million newspaper wrapping bags in a year, according to Mr. Timothy G. Fink, executive vice president, and United Packaging of City of Industry, CA sells 50–100 million a year, half of them imported from Taiwan, according to Miss Jheri Foley, one of three sales representatives for this line.

Nationwide use, Mr. Fink estimates, and Miss Foley agrees, is "close to 600 million bags each year." This is ten times the daily circulation of all the 1769 daily English-language newspapers in the country (on 1 Jan 1980); some wrap every day, but many not at all. Most bags are clear or cloudy plastic, but some are bright yellow or orange, to be seen in snow. Bag prices range from $5 per thousand for 4 × 16 inch bags of 0.5 mil plastic to $20 per thousand for 20 × 24 inch bags of 1.5 mil stock.

Wrapping in case of rain is associated, in general, with lawn delivery of newspapers tossed by a carrier on wheels—automobile, motorcycle, bicycle, or even skateboard—or perhaps on horseback. Where snow can pose wintertime problems, delivery often is to a sheltered place—a roofed porch or even inside a storm or screen door. In Seattle, newspapers sell owners of porchless homes a plastic tube in which the carrier can place the paper, according to Mr. Carl F. Schroegel, former circulation manager of the *Seattle Times* and now secretary of the Western Conference of Circulation Managers.

When rain falls during the delivery period, or seems imminent, wrapping newspapers before outdoor delivery is the responsibility of each carrier or delivery agent, who in turn may be advised by his circulation manager or supervisor, or may decide for himself. To determine how weather information is used in this decision, inquiries were directed to three Los Angeles area newspapers: the afternoon Santa Monica *Evening Outlook*, circulation 38 000; the morning *Daily News*, 222 000 (mostly in the San Fernando Valley of Los Angeles) and the morning *Los Angeles Times*, 1 040 000.

Afternoon newspapers are delivered generally between 3 and 5 p.m., and many are picked up by subscribers within an hour, so the exposure time is only two to four hours, and mostly daylight hours at that. Hence the wrapping decision is left to the carriers themselves by many suburban newspapers, such as the *Evening Outlook*. If lawns are still wet from rain recently ended, or is forecast, self-employed carriers use bags provided by the newspaper but for which they must pay. Because wrapping is a carrier responsibility, Mr. Joe Algieres of the *Outlook* circulation staff has no figures on bag usage or on wet paper complaints. The circulation department's two telephone lines can each handle about one call per minute, and remain open for only two hours after delivery time, so wet paper complaints cannot exceed 300—less than 1% of the circulation.

At the *Daily News*, National Weather Service (NWS) forecasts, as disseminated on the automatic telephone line or on weather radio, are used to decide whether to bag the 222 000 copies delivered each morning in the San Fernando, Santa Clara, Simi, and Conejo Valleys. Forecasts carried on the news teletypes or on the NWS local weather wire are not consulted, perhaps because of physical separation of editorial and circulation offices. Likewise, no attention is paid to the forecast as printed in the newspaper itself, whose front page closes just before the 1130

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LST press time, after the bagging decision has been made.

Generally, according to Mr. Jay Coleman, *Daily News* distribution manager, a forecast rainfall probability of 20% or more causes drivers to be told to deliver newspaper bundles to carrier's porches or other sheltered areas, instead of leaving them at the curb. In turn, the self-employed carriers then must wrap the papers from the 2-day bag stock they keep on hand; the paper delivers additional bags as needed, without charge. Unexpected rain during delivery may cause the carrier to interrupt a service route and go home to bag the remaining papers, or else require delivery to a porch or other dry place; either course may cause school tardiness.

Of the *Los Angeles Times*' circulation of slightly more than a million papers each morning, about a quarter are sold (in street racks, newstands, or by mail), almost a quarter are delivered to inside locations (apartments, offices), and somewhat more than half are tossed, neatly tied, on subscribers' lawns, driveways, or walks, vulnerable to the weather. Formerly the circulation staff consulted all the half-dozen forecasts carried on the many incoming *Times* teletype lines, including a special rainfall probability forecast placed on the weather wire around 2300 LST nightly by the NWS forecast office. None of these was sufficiently specific, however, so *Times* policy was to bag throughout its entire delivery region, from Santa Barbara to Riverside to San Diego, when rain was possible anywhere.

During 1980, the number of days on which newspapers were bagged, and on which downtown Los Angeles received 0.01 inch (0.25 mm) or more of rain between midnight and 1000 LST, were:

Month:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Wrapped:	15	4	4	9	5	0	0	0	0	0	0	3	40
Rain:	10	10	9	2	2	0	0	0	0	0	0	1	34

No statistics are kept by the *Times* on wrapping errors of either omission or comission, and the available weather records are not sufficiently detailed to indicate the number of rainy mornings in each delivery area. Although papers were wrapped on six more mornings than those with rain downtown, apparently in February papers were delivered unwrapped on six unexpected wet mornings. If these were the only such mistakes, the results can be displayed in a contingency table:

TABLE 1. Weather, 1980

		Wet	Dry	Total
Delivery	Wrap	28	12	40
	Don't	6	320	326
	Total	34	332	366

The 28 wrappings on wet mornings and 320 non-wrappings on dry mornings represent correct actions; the 12 dry mornings on which wrapped papers were thrown are comission "errors of the first kind," the six wet mornings with unwrapped papers are omission errors "of the second kind." For the year, bags cost the *Times* $388 612 or $9 715 per day according to Mr. Richard Wienke of the *Times* circulation department. Hence the first error cost $116 584, but the cost of the error of the second kind, not wrapping papers on six rainy mornings, is much harder to establish. Delivery complaints of all kinds average about 1900 per week, Mr. Wienke says, and rise to only 3000 in rainy weeks. This 1100 increase is less than 0.2% of the total home delivery subscribers. Most subscribers do not request replacement of wet papers, but just curse the delivery man, the *Times*—and the weather forecaster—while they spread the newspaper around the house to dry.

In October 1980, after detailed investigation, including asking opinions of several experts, the *Times* passed the bagging decision to a private meteorological firm, Universal Weather and Aviation, Inc., which had provided forecasts to the *Times* a decade earlier. Mr. Donald W. Taft, executive vice president and local manager of Universal, and his staff of six professional meteorologists first divided the delivery area into 25 zones, from Santa Barbara to Riverside to San Diego. Each zone contains several distribution agent territories; agents and delivery persons are *Times* employees, not self-employed, and rarely see their customers, because all orders and collections are handled by the circulation office.

Every afternoon around 1700 LST, a Universal forecaster telephones the *Times* circulation department to advise in which of the 25 zones, if any, carriers should wrap papers the next morning. Generally, "wrap" is directed in any zone for which the probability of rainfall between midnight and noon is at least 10%. Universal closes its office at the Los Angeles airport at 1800 LST but its Houston office, operating around the clock, monitors California weather and can amend the instructions up to 2300 LST. For 1981–82, with its *Times* contract renewed, Universal has refined somewhat its procedure, extending the revision deadline to 0200 LST. Naturally, Universal hopes its services are cost-effective, but objective evaluation is difficult with no valid estimate of errors of the second kind (missed rainfall occurrences).

Cost effectiveness, however, may not be the purpose in the use of weather information to decide

whether to wrap newspapers. Instead, the goal appears to be that most intangible commodity, goodwill. Receipt of wet newspapers does not bring a flood of complaints whose satisfaction costs more than prevention. So few wet paper complaints are received that the cost of delivering dry replacements may be less than the cost of wrapping all papers. If redelivery costs $3 per paper, including the newsstand price of the replacement (25¢ daily, 75¢ Sunday for the *Times*), responding to 3 000 wet paper complaints would equal the cost of wrapping all papers, which in turn is about two-thirds the charge for one full-page *Times* advertisement. Wrapping cost is such a small part of the total printing and delivery expense that its minimization is of minor concern.

Similar evaluation may apply to other uses of weather information. Even in highly weather-sensitive activities, the costs related to weather information can be minor compared to others for labor, materials, or supplies. For many activities, managers know more about their probable weather-related costs, from detailed climatic statistics, than about other much larger expenditures. Reducing weather-related costs by even 25% may not be attractive when those costs themselves may be a small percentage of total expenses, depending on other intangibles.

The news delivery dilemma, whether or not to wrap, dramatizes a specific action to be taken on the basis of a weather forecast, or observation. But because its cost is minor compared to other costs of newspaper delivery, no figures are kept on the cost of not wrapping on a wet day, so as yet it is not amenable to strict evaluation, and cannot serve as a simple example of weather forecast economics.